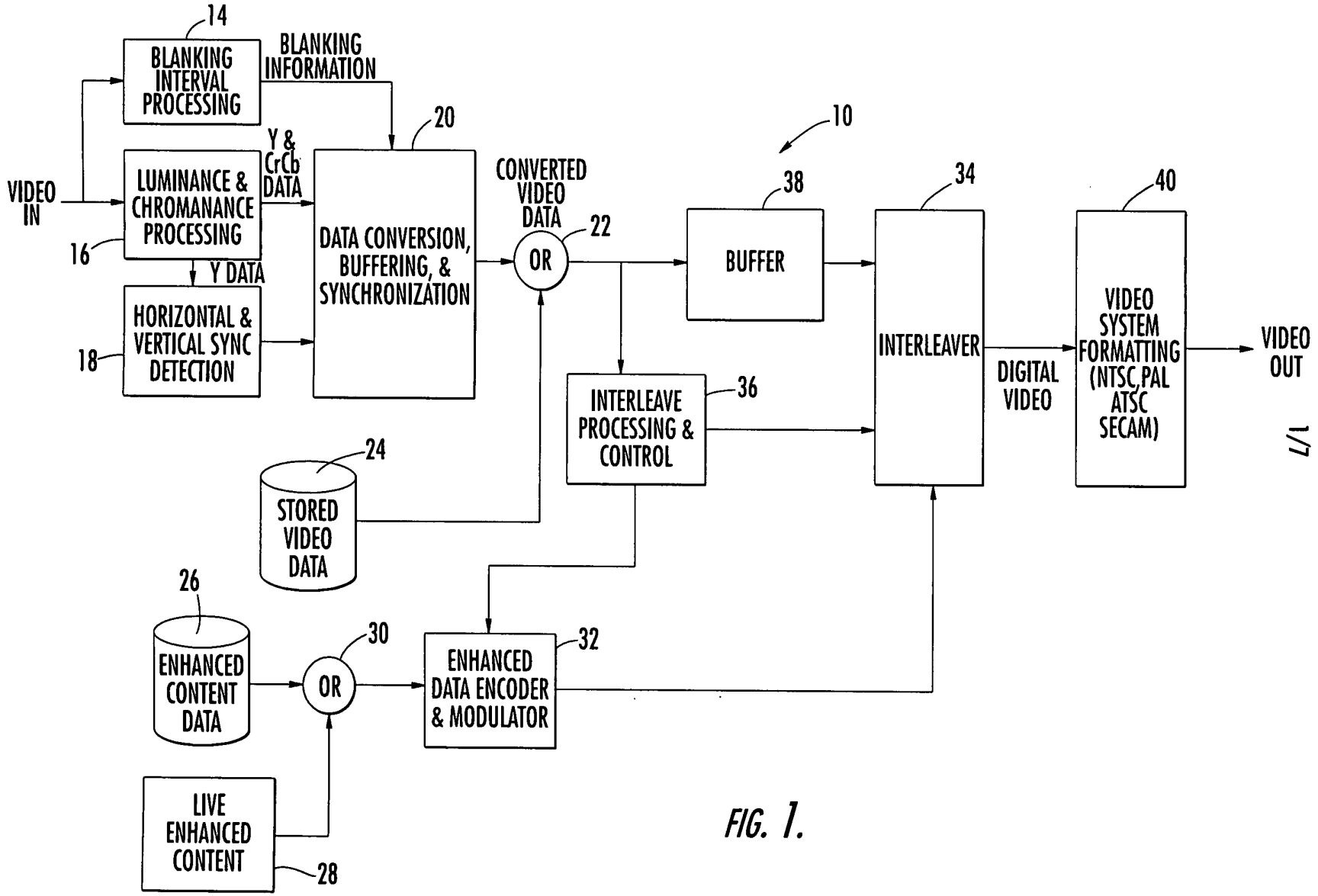
14
BLANKING INTERVAL PROCESSING
BLANKING INFORMATION
20
10
VIDEO IN
LUMINANCE & CHROMANANCE PROCESSING
Y & CrCb DATA
DATA CONVERSION, BUFFERING, & SYNCHRONIZATION
CONVERTED VIDEO DATA
OR
22
38
BUFFER
34
INTERLEAVER
40
VIDEO SYSTEM FORMATTING (NTSC,PAL ATSC SECAM)
VIDEO OUT
16
Y DATA
HORIZONTAL & VERTICAL SYNC DETECTION
18
INTERLEAVE PROCESSING & CONTROL
36
DIGITAL VIDEO
24
STORED VIDEO DATA
26
ENHANCED CONTENT DATA
30
OR
ENHANCED DATA ENCODER & MODULATOR
32
LIVE ENHANCED CONTENT
28

FIG. 1.

1/7

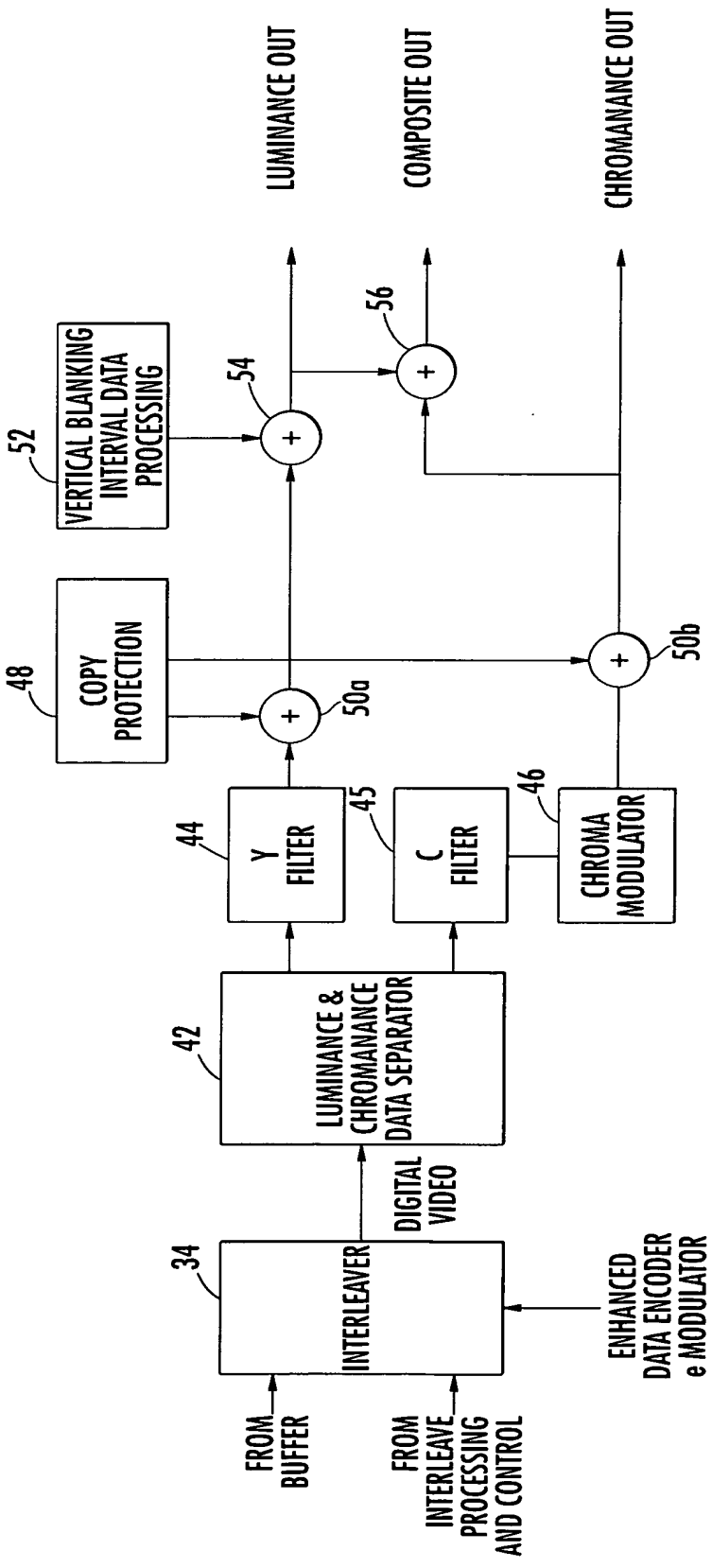
LUMINANCE OUT
COMPOSITE OUT
CHROMANANCE OUT
VERTICAL BLANKING INTERVAL DATA PROCESSING
52
54
56
COPY PROTECTION
48
50a
50b
Y FILTER
44
C FILTER
45
CHROMA MODULATOR
46
LUMINANCE & CHROMANANCE DATA SEPARATOR
42
INTERLEAVER
34
DIGITAL VIDEO
FROM BUFFER
FROM INTERLEAVE PROCESSING AND CONTROL
ENHANCED DATA ENCODER e MODULATOR

FIG. 2.

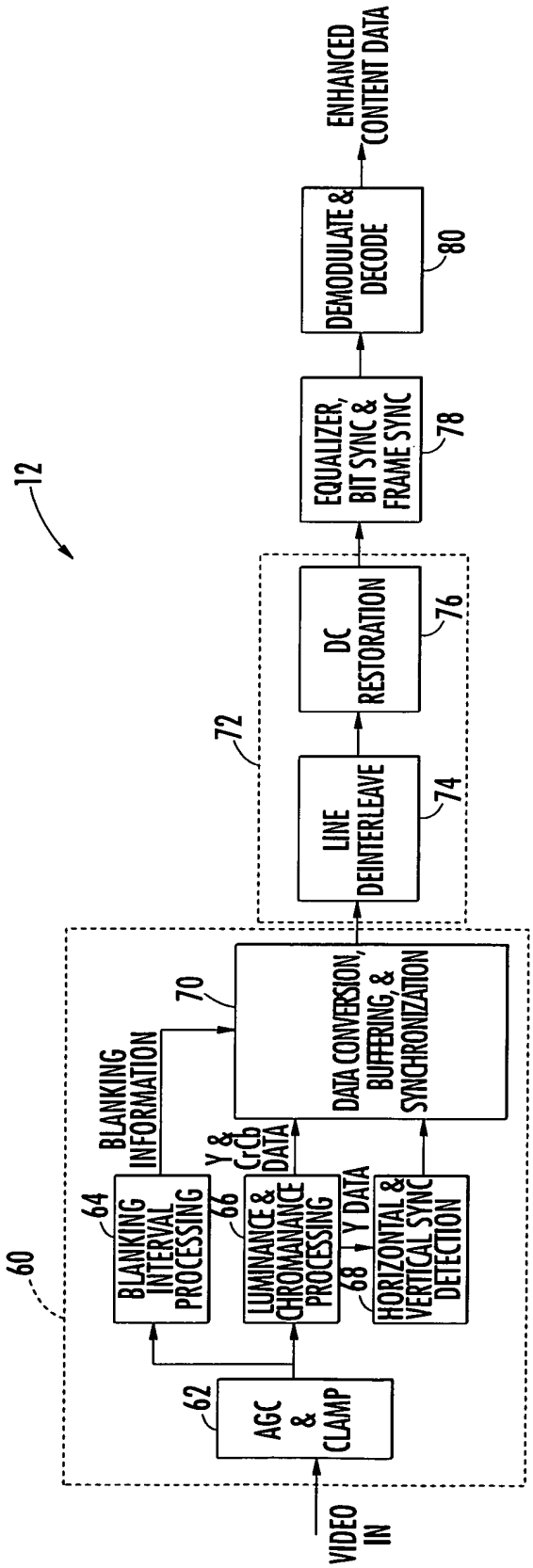
12
60
VIDEO IN
62
AGC & CLAMP
64
BLANKING INTERVAL PROCESSING
66
LUMINANCE & CHROMANANCE PROCESSING
68
HORIZONTAL & VERTICAL SYNC DETECTION
Y DATA
Y & CrCb DATA
BLANKING INFORMATION
70
DATA CONVERSION, BUFFERING, & SYNCHRONIZATION
72
74
LINE DEINTERLEAVE
76
DC RESTORATION
78
EQUALIZER, BIT SYNC & FRAME SYNC
80
DEMODULATE & DECODE
ENHANCED CONTENT DATA

FIG. 3.

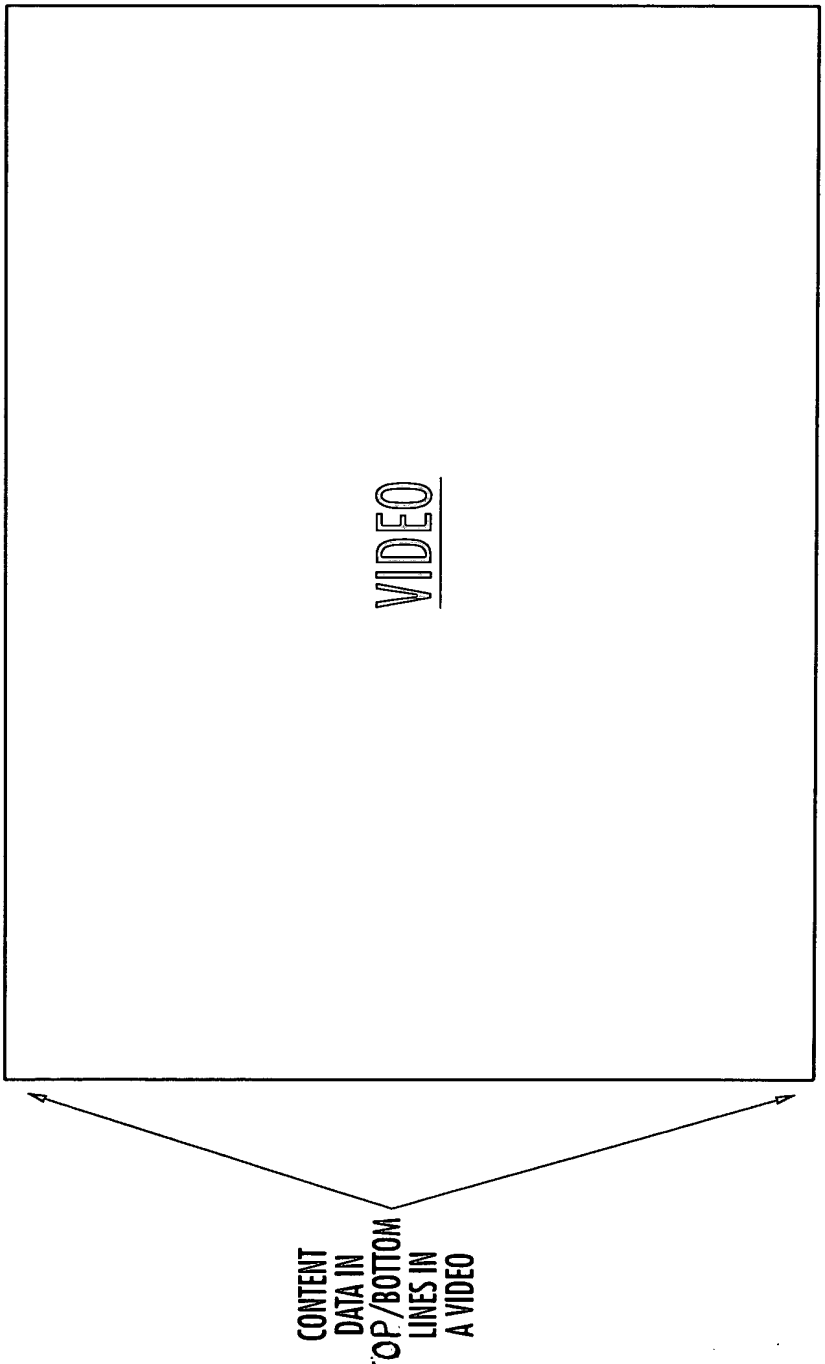

FIG. 4.

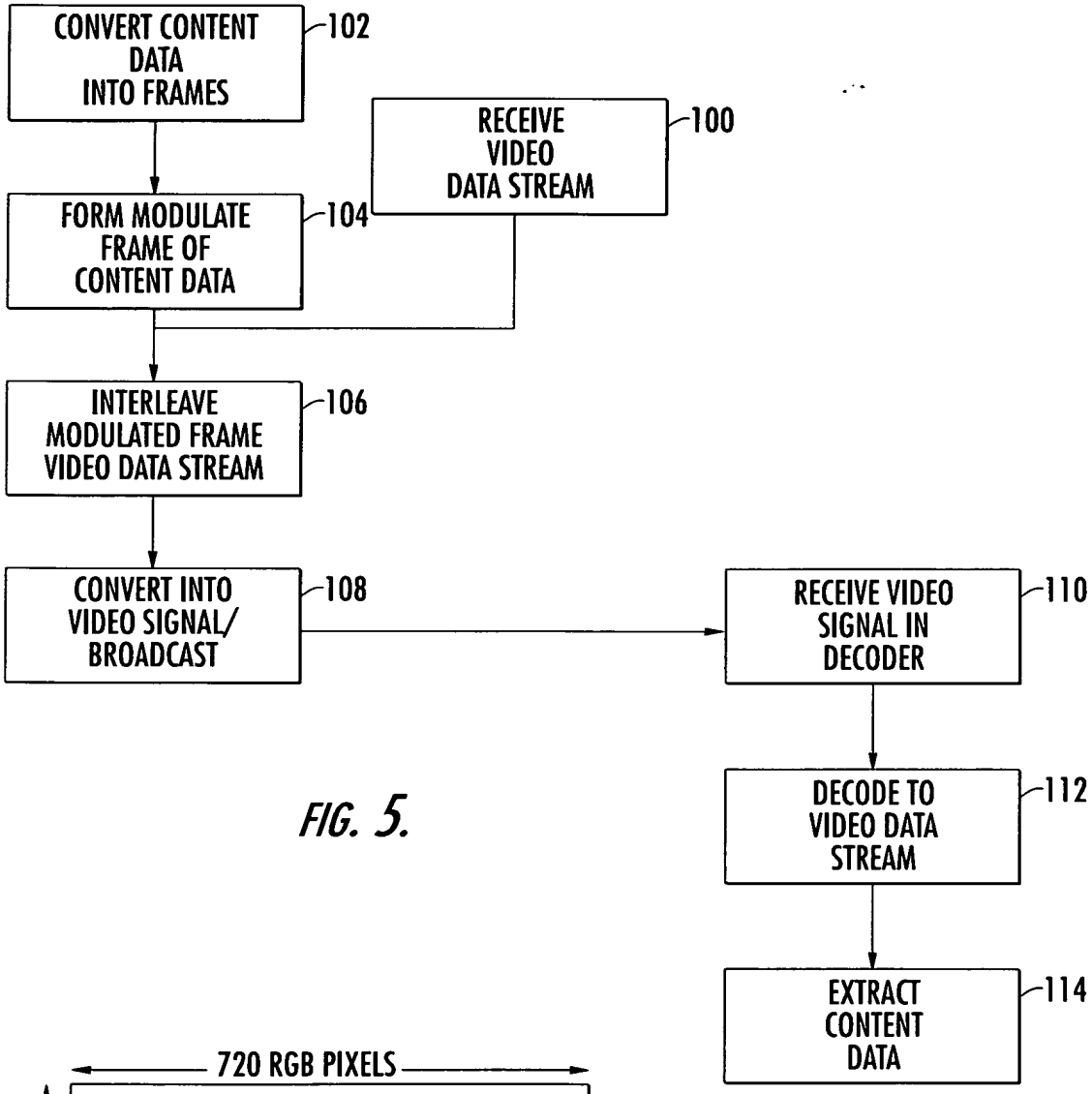
CONVERT CONTENT DATA INTO FRAMES
102
RECEIVE VIDEO DATA STREAM
100
FORM MODULATE FRAME OF CONTENT DATA
104
INTERLEAVE MODULATED FRAME VIDEO DATA STREAM
106
CONVERT INTO VIDEO SIGNAL/ BROADCAST
108
RECEIVE VIDEO SIGNAL IN DECODER
110
DECODE TO VIDEO DATA STREAM
112
EXTRACT CONTENT DATA
114

FIG. 5.

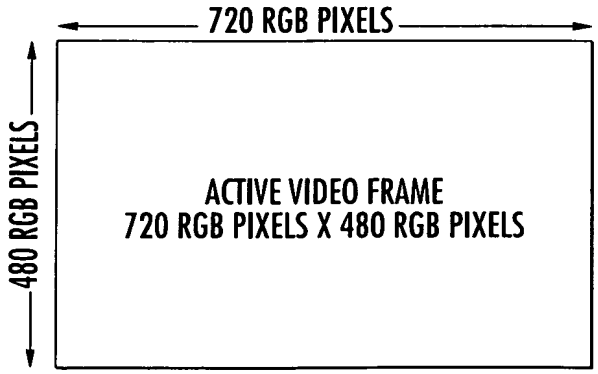
720 RGB PIXELS
480 RGB PIXELS
ACTIVE VIDEO FRAME
720 RGB PIXELS X 480 RGB PIXELS

FIG. 6.

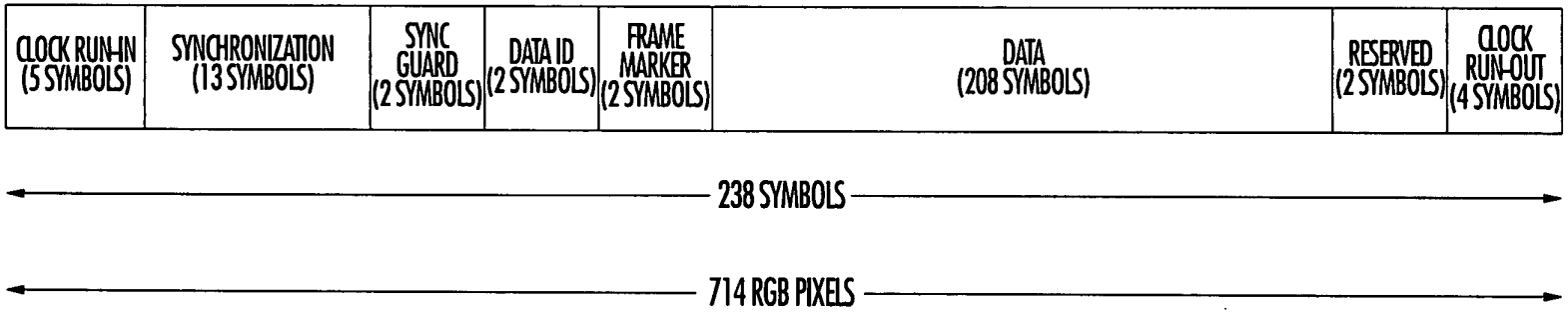

FIG. 7.

SYMBOL TABLE	DECIMAL Y VALUE	SINGLE R' VALUE	15 BIT RGB	24 BIT RGB
NULL	127	15	15855	8092539
0	63	8	8456	4342338
1	191	23	24311	12434877

FIG. 8.

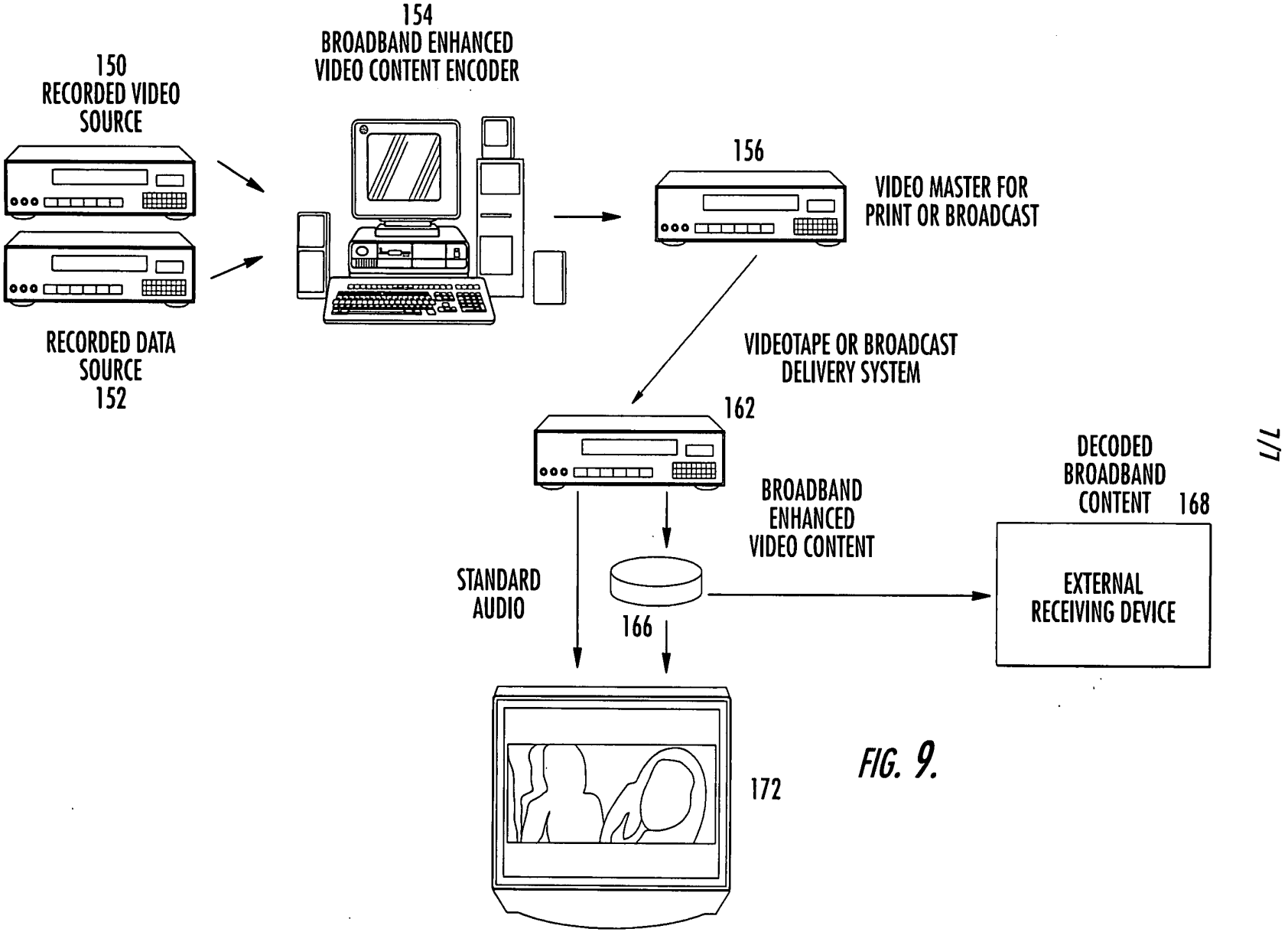
150
RECORDED VIDEO
SOURCE
RECORDED DATA
SOURCE
152
154
BROADBAND ENHANCED
VIDEO CONTENT ENCODER
156
VIDEO MASTER FOR
PRINT OR BROADCAST
VIDEOTAPE OR BROADCAST
DELIVERY SYSTEM
162
BROADBAND
ENHANCED
VIDEO CONTENT
DECODED
BROADBAND
CONTENT
168
STANDARD
AUDIO
166
EXTERNAL
RECEIVING DEVICE
172

FIG. 9.